

LSST FPA Meeting

BNL

February 4-5, 2004

Introduction

S. Aronson

Agenda: Wednesday Feb. 4

9:00	Sam Aronson	Welcome	
9:15	Steve Kahn	<i>LSST Camera Overview</i>	(15)
9:25	Don Figer	<i>Status of CMOS Detector Technology for LSST</i>	(35+10)
10:10	Steve Holland	<i>Technology tradeoffs for fully-depleted visible image sensors</i>	(45+10)
11:05		----- Coffee Break -----	
11:25	Barry Burke	<i>CCD Technology for LSST</i>	(45+10)
12:20		----- Lunch -----	
1:20	Jim Janesick	<i>Scientific CMOS Pixels</i>	(30+10)
2:00	Stuart Marshall	<i>A CMOS Based LSST Imaging Conceptual Design for Enhanced Dynamic Range</i>	(20+10)
2:30	Natalie Roe	<i>ASIC Development for SNAP Focal Plane Readout</i>	(30+10)
3:10	Tim Thurston	<i>Cooling and Thermal Management</i>	(30+10)
3:50		----- Coffee Break -----	
4:10	Kris Kwiatkowski	<i>The 5MHz/2Mpx Rockwell-LANL Imager - early experiences, joys and tribulations</i>	(20+10)
4:40	George Jacoby	<i>Pros and Cons of Orthogonal Transfer CCD Arrays For LSST</i>	(15+5)
5:00	John Geary	<i>Lessons Learned from Large Procurements of CCDs</i>	(30+10)
6:15		----- depart for dinner -----	

Agenda: Thursday Feb. 5

8:30	Tony Tyson	<i>Status of Vendor Inquiries</i>	(45)
9:15	All	<i><u>Discussion:</u> Analysis and assessment of sensor technology options</i>	(2:15)
11:30	All	<i><u>Discussion:</u> What do we do next?</i>	(1:00)
12:30		----- Adjourn -----	
2:30	Kem Cook	<i>Discussion on LSST Computing Requirements & RHIC/ATLAS Computing at BNL (Physics – Room 2-160)</i>	

Analysis and assessment of sensor technology options with respect to:

- Principle of operation, QE and PSF
- Readout electronics issues
 - Power dissipation
 - Need for ASIC development
 - ADC
 - Signal processing on/off the sensor
 - Electronic shutter
- Expected performance vs. LSST requirements
- Development time scale (where is the technology now and required development for LSST)
- Sources of technology; fabrication technology vs. active thickness
- Strengths and weaknesses, potential problems and risks

Some key issues:

1. Pixel size
2. Sensor active thickness, QE *vs* depth of focus, PSF
3. Sensor operating temperature
4. Readout speed and noise
5. Saturation and blooming characteristics
6. Critical electronics
7. Procurement issues and conflict of interests

Sensor Technology Status and Expectations

1. Status of presently available devices with respect to LSST requirements;
2. Devices and technologies which might approach LSST requirements with developments and design advances within 2-3 years;
3. New device concepts and technology developments requiring more than 3 years.